DESCRIPTION:

The JST12F-1000BW triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. JST12F-1000BW snubberless triac is especially recommended for use on inductive loads. By using an external plastic package, JST12F-1000BW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

MAIN FEATURES

Symbol Value al ļ ų ʁ ƥ Ńş 、a- M1- ʻ VMضـ

ABSOLUTE MAXIMUM RATINGS

Storage junction temperature range	T_{stg}	-40-150	℃
Operating junction temperature range	T_j	-40-125	℃
Repetitive peak off-state voltage (T_j=25℃)	V_{DRM}	1000	V
Repetitive peak reverse voltage (T_j=25℃)	V_{RRM}	1000	V
RMS on-state current (T_C≤85℃)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25℃)	I_{TSM}	120	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25℃)		132	
I^2t value for fusing (t_p=10ms , T_j=25℃)	I^2t	72	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT} , f=100Hz , T_j=125℃)	dI/dt	100	A/μs
Peak gate current (t_p=20μs , T_j=125℃)	I_{GM}	4	A
Average gate power dissipation (T_j=125℃)	$P_{G(AV)}$	0.5	W

Peak gate power	P_{GM}	10	W
Peak pulse voltage (T_j=25℃; non-repetitive,off-state;FIG.7)	V_{pp}	4.5	kV

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

I_{GT}	V_D =12V R_L =33Ω	Ⅰ-Ⅱ-Ⅲ	MAX.	50	mA
V_{GT}		Ⅰ-Ⅱ-Ⅲ	MAX.	1	V
V_{GD}	V_D =V_{DRM} T_j =125℃ R_L =3.3kΩ	Ⅰ-Ⅱ-Ⅲ	MIN.	0.2	V
I_L	I_G =1.2I_{GT}	Ⅰ-Ⅲ	MAX.	70	mA
		Ⅱ		90	
I_H	I_T =500mA		MAX.	50	mA
dV/dt	V_D=670V Gate Open T_j =125℃		MIN.	800	V/μs
(dI/dt)c	(dV/dt)c=20V/μs T_j=125℃		MIN.	20	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25℃		TYP.	5	μs
t_{off}				50	

STATIC CHARACTERISTICS

V_{TM}	I_{TM} =17A t_p=380μs	T_j=25℃	1.5	V
V_{TO}	Threshold voltage	T_j=125℃	0.77	V
R_D	Dynamic resistance	T_j=125℃	35	mΩ
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25℃	8	μA
I_{RRM}		T_j=125℃	1	mA

THERMAL RESISTANCES

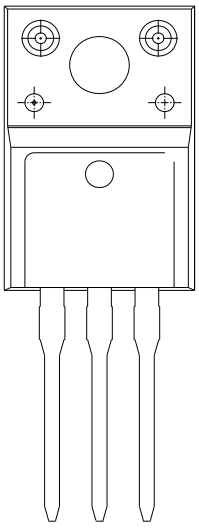
$R_{th(j-c)}$	junction to case (AC)	2.4	℃/W
$R_{th(j-a)}$	junction to ambient (AC)	60	℃/W

ORDERING INFORMATION

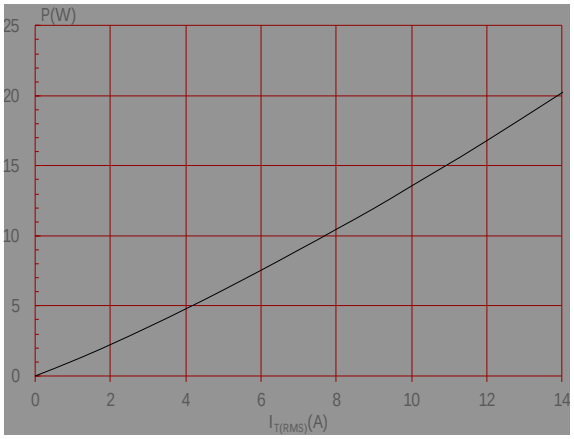
J ST 12 F -1000 BW

- J: JieJie Microelectronics Co., Ltd.
- ST: Triacs
- 12: $I_{T(RMS)}$:12A
- F: F:TO-220F(Ins)
- -1000: 1000:V_{DRM} /V_{RRM} ≥1000V
- BW: BW:I_{GT1-3} ≤50mA

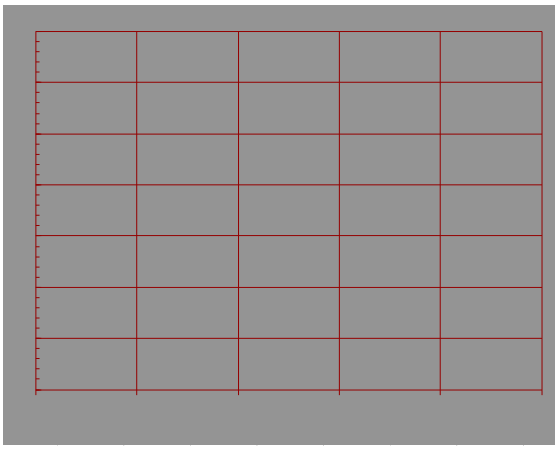
MARKING



Maximum power dissipation versus RMS on-state current



RMS on-state current versus case temperature





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PACKAGE MECHANICAL DATA



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